

# **Generating Simulation Data for Prognostics Algorithm Development**

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# Why Simulate Degradation Data?



**1** Fielded Applications

- Run-to-failure data are hard to obtain
- Lack of instrumented systems
- Maintenance operations
- Proprietary issues

**2** Experimental Test beds

- Extremely time consuming and often dangerous
- Accelerated ageing differs in degradation mechanisms
- Multiple tests more difficult

**3** Computer Simulations

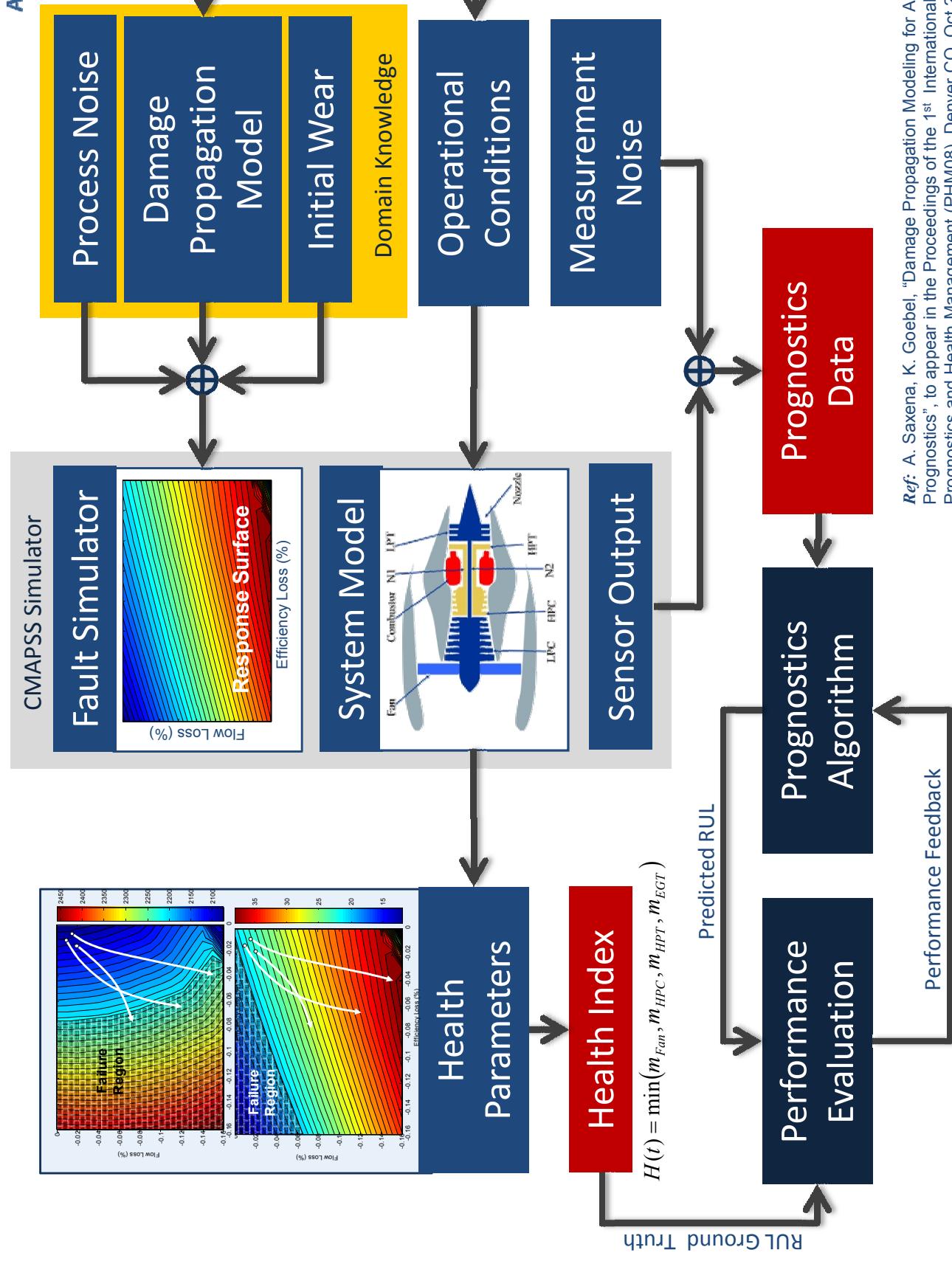
- Complex models difficult to create
- Allow multiple simulations



# Simulation Scheme



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Ref: A. Saxena, K. Goebel, "Damage Propagation Modeling for Aircraft Engine Prognostics", to appear in the Proceedings of the 1<sup>st</sup> International Conference on Prognostics and Health Management (PHM08), Denver CO, Oct 2008.